

Remarks

The Examiner has objected to the drawings for failing to include reference numeral 100. Responsive thereto, reference to that numeral throughout the specification has been deleted. Thus, the drawings need not be corrected.

The Examiner has objected to claims 1 and 10 on grammatical grounds. Both claims have been amended in an appropriate manner.

Claim 11 has been objected to as being of improper dependent form. This claim has been cancelled.

Claim 13 has been rejected under 35 U.S.C. 112 second paragraph as being indefinite. This claim has also been cancelled.

All claims of the application have been rejected as either being anticipated by Ericson, et al, U.S. Patent 5,564,529, or unpatentable over Ericson '529 either alone or in combination with Tomasetti, U.S. Patent 6,209,686, Halpern, GB Patent 2 139 183A, or Wilson, U.S. Patent 5,049,022. Applicants respectfully traverse the rejections of claim 1 and all claims dependent thereon. Applicants have amended independent claim 10 and submit new independent claim 14 to replace independent claim 12. It is believed that such claims, as presently presented, are also neither anticipated nor rendered unpatentable by the art of record.

The present invention is directed to a lift construction in which an elevator cage has a three-dimensional body in which passengers are to be conveyed and an encircling support body from which the three-dimensional body is suspended. All generated forces occurring during lift cage travel are applied to the support body. The cage and support body are further constructed to minimize the floor depth of the lift cage. This allows the base of the building in which the lift is installed to have a minimal depth or displacement between the landing level and the surface below the lift, allowing a more economical construction to be employed.

Claim 1 of the present application recites that the lift cage, which comprises both the three-dimensional body and the support body, has a floor depth corresponding or equal to the thickness of the floor member of the three-dimensional body. Such a construction is neither taught nor suggested by Ericson et al '529.

As may be seen in Fig. 2 of Ericson et al, the lift cage depicted therein includes a three-dimensional passenger-receiving body having floor member or platform 46. Support body 28, as identified by the Examiner, includes the plank beam 36, which is located below the floor member of the three-dimensional body. Thus, the total floor depth of the lift cage corresponds to the depth of the floor member 34 plus the height of plank beam 36. Accordingly, Ericson does not have a lift cage floor depth corresponding to a thickness of the floor member alone, as set forth in claim 1.

There is neither teaching nor suggestion in Ericson et al '529 that its three-dimensional body 32 be supported or suspended in its support body 28 without the presence of the underlying plank beam 36. The plank beam 36 is an integral portion of the support body 28. Thus, claims 1, 3/1, 4/1, 6/1, 7/1, 8/1 and 9/1 are allowable.

The Examiner further relies on Tomasetti et al '686 for rejection of claims 2, 3/2, 4/2, 6/2, 7/2, 8/2, 9/2 and 13, applying Ericson et al '529 in combination with Tomasetti et al. While Tomasetti, et al '686 discloses a support body having side frames connected by a top frame, the addition of Tomasetti to Ericson fails to cure the basic defect of Ericson with respect to the presence of the plank beam 36 below the three-dimensional body floor member, such that a lift cage constructed in accordance with the combined teachings of the references still does not have a floor depth corresponding to the floor member thickness. Indeed, Tomasetti, et al presents a rope support fixture 23 positioned below the intended location of the three-dimensional body in a manner analogous to the plank beam of Ericson, et al '529. Accordingly, the combination of Ericson, et al and Tomasetti, et al has neither a teaching nor a suggestion that the plank beam 36 of Ericson be removed to meet the lift cage floor depth requirement of the claims against which they have been applied. The rejection of such claims over the combination of Ericson, et al and Tomasetti, et al is improper and should be withdrawn.

In a similar manner, Halpern GB '183 also does not provide disclosure which eliminates the deficiency of Ericson. Halpern is relevant only for its teaching of profile elements, as the Examiner has acknowledged. Thus, the rejection of claim 5 on the combination of Ericson and Halpern should also be withdrawn.

Claim 10 has also been rejected as being anticipated by Ericson, et al '529. Claim 10 now recites that the claimed lift has a lift shaft base upper side surface which is located intermediate between under and upper sides of the floor plate of the building and a lift shaft base underside lying at the same level as the underside of the floor plate. This claim reflects the structure depicted in Figure 2 of the application, in which the upper lift shaft base surface 203 lies below the upper surface 204 of the story floor portion of the floor plate B and above the under side of the floor plate, which is located at level N, while the full underside surface of the floor plate, both story floor and lift shaft base portions, is at the level N.

The disclosure of Ericson, et al does not disclose the construction of the lift shaft base of its lift shaft 18. While a lift shaft base is generally depicted, neither the thickness of the base nor the relationship between the base surfaces and the building floor plate is revealed, discussed, or suggested. Accordingly, Ericson does not anticipate claim 10.

The addition of Wilson'022 to Ericson, et al, applied against now-cancelled claim 11, also does not render claim 10 unpatentable. Wilson does not disclose a floor plate having an underside at a consistent level. Rather, it shows a staggered construction in which a lift base is fully depressed below both the upper and lower surfaces of the portion of the floor plate adjacent the lift. Combining Wilson with Ericson, et al, would merely lead to a similarly depressed lift shaft base, without suggestion of the construction recited in claim 10.

New claim 14 (replacing claims 12 and 13) recites a method of mounting a lift cage in a lift shaft, wherein side frames of the support body are positioned on a lift shaft base, while a top frame of the support body is fastened to the conveying cable of the lift. The top frame is then lifted to a fastening level between the side frames and is connected thereto. Once the top frame is connected to the side frames, a roof and structural members of the three-dimensional cage is attached to the construction. The roof and structural members of the three-dimensional cage are then connected together.

Consideration of Ericson, et al '529 shows that it does not disclose any particular method for construction of its cage in a lift shaft, much less the specific method recited in claim 14. There is certainly no teaching or suggestion that support body side frames be first located on a lift shaft base and the top frame be raised by the lift drive to a position whereby it can be connected to the side frames. It further offers no suggestion that the roof and structural members of the cage are then fastened to either the top or side frames and then connected together. Accordingly, claim 14 is not anticipated by the Ericson, et al reference.

In view of the foregoing, the withdrawal of all objections and rejections and passage to allowance of all present claims is solicited.

Respectfully submitted,

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